# AMENDMENTS TO THE CLAIMS

Claims 1-20 **(Cancelled)**

21. **(New)** A system stream creating apparatus for creating a system stream, the system stream being a sequence of fixed-length packs, the system stream creating apparatus comprising:

a video encoding unit operable to generate picture data and when having generated a last piece of picture data of a GOP, calculate remaining space of a pack storing the last piece of picture data, based on (i) a total amount of additional data used for multiplexing the GOP into the system stream, each piece of the additional data being included in each pack that contains a portion of the GOP, and (ii) a total amount of picture data contained in the GOP, and generate as many next start codes as correspond to the remaining space of the pack which stores the last piece of picture data; and

a stream data transfer unit operable to store the picture data and the next start codes generated by the video encoding unit into a fixed-length pack.

22. **(New)** A system stream creating apparatus for creating a system stream, the system stream being a sequence of fixed-length packs, each pack storing a piece of either video stream data or audio stream data, the video stream data being a sequence of picture data, the audio stream data being a sequence of audio frames, the system stream creating apparatus comprising:

a stream data transfer unit operable to extract either a piece of picture data having a size of a payload from the video stream data or an audio frame from the audio stream data and store the extracted picture data or audio frame into a fixed-length pack; and

a transfer control unit operable to control the stream data transfer unit so that a group of audio frames provided through a plurality of channels and having the same presentation time in common are stored in a group of packs which have been generated successively, and during the storage of the group of audio frames, audio stream data is stored in packs with higher priority than the other types of stream data.

23. **(New)** A system stream creating apparatus for creating a system stream, the system stream being a sequence of fixed-length packs, each pack storing a piece of either video stream data or audio stream data, the video stream data being a sequence of picture data, the audio stream data being a sequence of audio frames, the system stream creating apparatus comprising:

a header data generating unit operable to write a specified time into a header of a pack, the specified time indicating a time when either a piece of picture data or an audio frame included in the pack is to be input to a decoding apparatus;

a stream data transfer unit operable to extract either a piece of picture data having a size of a payload from the video stream data or an audio frame from the audio stream data and store the extracted picture data or audio frame into a fixed-length pack; and

a transfer control unit operable to, when a difference between a presentation time of the audio frame and the specified time written in the header of the pack is lower than a certain value, cause the stream data transfer unit to store the audio frame into the pack so that a group of audio frames provided through a plurality of channels and having the same presentation time in common are stored in a group of packs which have been generated successively.

24. **(New)** A system stream creating method for creating a system stream, the system stream being a sequence of fixed-length packs, each pack storing a piece of video stream data, the video stream data being a sequence of picture data, the system stream creating method comprising:

a video encoding step for generating picture data, and when having generated a last piece of picture data of a GOP, calculating remaining space of a pack storing the last piece of picture data, based on (i) a total amount of additional data used for multiplexing the GOP into the system stream, each piece of the additional data being included in each pack that contains a portion of the GOP, and (ii) a total amount of picture data contained in the GOP, and generating as many next start codes as correspond to the remaining space of the pack which stores the last piece of picture data; and

a stream data transfer step for storing the picture data and the next start codes generated by the video encoding unit into a fixed-length pack.

25. **(New)** A computer-readable record medium recording a program for creating a system stream, the system stream being a sequence of fixed-length packs, each pack storing a piece of video stream data, the video stream data being a sequence of picture data, the program comprising:

a video encoding step for generating picture data, and when having generated a last piece of picture data of a GOP, calculating remaining space of a pack storing the last piece of picture data, based on (i) a total amount of additional data used for multiplexing the GOP into the system stream, each piece of the additional data being included in each pack that contains a portion of the GOP, and (ii) a total amount of picture data contained in the GOP, and generating as many next start codes as correspond to the remaining space of the pack which stores the last piece of picture data; and

a stream data transfer step for storing the picture data and the next start codes generated by the video encoding unit into a fixed-length pack.